

REMARKS

Status of the Claims

Claims pending in the above-identified application are Claims 20-36. Claims 20 and 21 are amended. Support for the amendments is found throughout the specification; hence, the amendments do not introduce new matter into this application. The above amendments have not been made in view of the rejections.

Status of the Specification

The written description is amended to indicate that U.S. Patent Application Serial No. 09/964,136 issued as U.S. Patent No. 6,657,034, and U.S. Patent Application Serial No. 08/943,303 issued as U.S. Patent No. 6,329,476. No new subject matter was introduced.

Rejections Under 35 USC § 102

Claims 23-24, which are dependent claims, are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,056,669 to Ballard et al. ("*Ballard I*"). Respectfully, this rejection is traversed.

Claim 20, from which Claims 23 and 24 depend, is directed to a catalyst composition comprising a compound that is supported on an aluminum-containing support selected from **fluorided** alumina, **fluorided** silica-alumina, **fluorided/silated** alumina, **aluminophosphate**, or mixtures thereof. *Ballard I* describes support materials that are "silica and alumina or mixtures thereof." See column 1, lines 42-43. Since *Ballard I* does not teach or suggest the invention as claimed in Claim 20, it cannot teach or suggest any claim depending therefrom. Thus, *Ballard I* does not teach or suggest every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 23-24 under 35 U.S.C. § 102(b) as being anticipated by *Ballard I* be withdrawn.

Claims 23-24, which are dependent claims, are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,969,386 to Ballard et al. ("*Ballard 2*"). Respectfully, this rejection is traversed.

Claim 20, from which Claims 23 and 24 depend, is directed to a catalyst composition comprising a compound that is supported on an aluminum-containing support selected from fluorided alumina, fluorided silica-alumina, fluorided/silated alumina, aluminophosphate, or mixtures thereof. *Ballard 2* describes support materials that are "silica and alumina or mixtures thereof." See column 4, lines 55-56. Since *Ballard 2* does not teach or suggest the invention as claimed in Claim 20, it cannot teach or suggest any claim depending therefrom. Thus, *Ballard 2* does not teach or suggest every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 23-24 under 35 U.S.C. § 102(b) as being anticipated by *Ballard 2* be withdrawn.

Claims 23-24, which are dependent claims, are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,950,269 to Setterquist ("*Setterquist*"). Respectfully, this rejection is traversed.

Claim 20, from which Claims 23 and 24 depend, is directed to a catalyst composition comprising a compound that is supported on an aluminum-containing support selected from fluorided alumina, fluorided silica-alumina, fluorided/silated alumina, aluminophosphate, or mixtures thereof. *Setterquist* describes an alumina support, on column 6, lines 1-9. Since *Setterquist* does not teach or suggest the invention as claimed in Claim 20, it cannot teach or suggest any claim depending therefrom. Thus, *Setterquist* does not teach or suggest every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 23-24 under 35 U.S.C. § 102(b) as being anticipated by *Setterquist* be withdrawn.

Claims 23-24, which are dependent claims, are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,738,944 to Candlin et al. ("*Candlin*"). Respectfully, this rejection is traversed.

Claim 20, from which Claims 23 and 24 depend, is directed to a catalyst composition comprising a compound that is supported on an aluminum-containing support selected from **fluorided** alumina, **fluorided** silica-alumina, **fluorided/silated** alumina, **aluminophosphate**, or mixtures thereof. *Candlin* describes silica and alumina support materials, on column 2, lines 19-28. Since *Candlin* does not teach or suggest the invention as claimed in Claim 20, it cannot teach or suggest any claim depending therefrom. Thus, *Candlin* does not teach or suggest every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 23-24 under 35 U.S.C. § 102(b) as being anticipated by *Candlin* be withdrawn.

Claims 23-24, which are dependent claims, are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,773,742 to Kruse ("*Kruse*"). Respectfully, this rejection is traversed.

Claim 20, from which Claims 23 and 24 depend, is directed to a catalyst composition comprising a compound that is supported on an aluminum-containing support selected from **fluorided** alumina, **fluorided** silica-alumina, **fluorided/silated** alumina, **aluminophosphate**, or mixtures thereof. *Kruse* describes silica, alumina, thoria, and titania support materials, on column 2, lines 51-56. Since *Kruse* does not teach or suggest the invention as claimed in Claim 20, it cannot teach or suggest any claim depending therefrom. Thus, *Kruse* does not teach or suggest every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 23-24 under 35 U.S.C. § 102(b) as being anticipated by *Kruse* be withdrawn.

Rejections Under 35 USC § 103

Claims 20-22 and 25-36 are rejected under 35 U.S.C. § 103(a) as being obvious over *Ballard 1*, *Ballard 2*, *Setterquist*, *Candlin*, or *Kruse*, either one in view of U.S. Patent No. 5,272,124 to Wu ("*Wu*"). Respectfully, this rejection is traversed.

Ballard 1, *Ballard 2*, *Setterquist*, *Candlin*, and *Kruse* are discussed above and not repeated here for brevity. The PTO states that *Wu* discloses an aluminum-containing support selected from, among others, fluorided alumina, fluorided/silated alumina, and

aluminophosphate. The PTO states that it would have been obvious to one of ordinary skill in the art at the time of the invention to use the catalyst supports of *Wu* along with the disclosures of *Ballard 1*, *Ballard 2*, *Setterquist*, *Candlin*, or *Kruse* to obtain the present invention. Applicants respectfully disagree.

“In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention.” *Karsten Mfg. Corp. v. Cleveland Gulf Co.*, 242 F.3d 1376, 1385, 58 U.S.P.Q.2d 1286, 1293 (Fed. Cir. 2001). *Wu* describes a catalyst system comprising a nickel compound and an aromatic carboxylic acid component. See column 1, lines 53-56. *Ballard 1*, *Ballard 2*, *Setterquist*, *Candlin*, and *Kruse* describe catalyst systems featuring only the following transition metal compounds:

- *Ballard 1* – titanium, zirconium (Group IVA metals), chromium (Group VIA metal), and vanadium (Group VA metal). See column 1, lines 60-62.
- *Ballard 2* – Groups IIIA to VIA metals, specifically titanium, vanadium, and chromium. See column 1, lines 9-16.
- *Setterquist* – Group IVA metals, specifically titanium, zirconium, and hafnium. See column 5, lines 10-15.
- *Candlin* – Groups IVA to VA metals, specifically titanium, zirconium, hafnium, and niobium. See column 1, lines 15-21.
- *Kruse* – Specifically titanium (Group IVA metal). See column 1, lines 25-28.

In sharp contrast, *Wu* discloses a nickel-based (Group VIII) catalyst system comprising a nickel compound or component and at least one aromatic carboxylic acid (column 1, lines 53-56). The *Wu* reference is directed to an entirely different type of catalyst system, and is silent with respect to catalyst systems employing Group IV transition metals, such as the claimed invention. Neither the nickel compound nor the carboxylic acid component of *Wu* have a structure as provided in Claims 20 and 21 or any of the above cited

references. Thus, *Wu* is unrelated to any catalyst system employing Group IIIA to Group VIA transition metals. Accordingly, one of ordinary skill in the art would have no suggestion to use the support of *Wu* with any of the catalyst systems described in the cited references. Accordingly, there is no suggestion or motivation for one of ordinary skill in the art to pick and choose features from *Wu* to supplement the deficiencies of *Ballard 1*, *Ballard 2*, *Setterquist*, *Candlin*, and *Kruse*. “Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.” *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999).

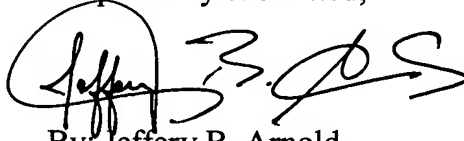
Respectfully, Applicants assert that a *prima facie* case of obviousness has not been made. Accordingly, Applicants request that the rejection of Claims 20-22 and 25-36 under 35 U.S.C. § 103(a), over *Ballard 1*, *Ballard 2*, *Setterquist*, *Candlin*, or *Kruse*, either one in view of *Wu*, be withdrawn.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully assert that the rejection of the claims as set forth in the Office Action has been fully addressed and overcome. Hence, Applicants assert that all Claims are in condition for allowance and request that an early notice of allowance be issued. If issues may be resolved by Examiner's Amendment, or clarified in any manner, a call to the undersigned attorney at (404) 879-2433 is respectfully requested.

No fees are believed due, however, the Commissioner is hereby authorized to charge any deficiencies which may be required, or credit any overpayment to Deposit Order Account No. 09-0528.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jeffery B. Arnold", is written over a circular stamp or seal.

By: Jeffery B. Arnold
Reg. No. 39,540

Date: January 6, 2006

WOMBLE CARLYLE SANDRIDGE & RICE, PLLC
P.O. Box 7037
Atlanta, Georgia 30357-0037
Direct Telephone: (404) 879-2433
Direct Facsimile: (404) 879-2933
Firm Telephone: (404) 872-7000

Atty. Docket No.: C51757 0042 (51879.0039.8)